

ABSTRACT

A fuel nozzle for use in a gas turbine combustor is provided having the capability of injecting multiple fuel types as well as steam for NOx reduction. Combustion dynamics within a combustor due to the mal-distribution of steam are controlled by the placement of a meterplate at the steam inlet, such that the meterplate reduces steam velocity and increases steam pressure drop. A higher pressure drop reduces the sensitivity of the combustion process to upstream steam supply variations. A method for providing uniform steam flow to a plurality of fuel nozzle assemblies about a gas turbine engine is also disclosed.